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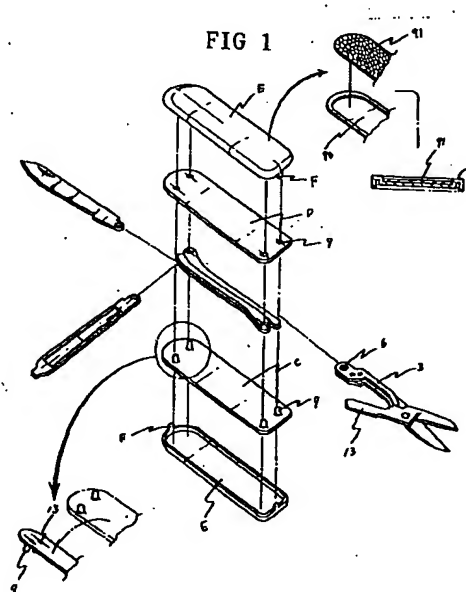
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(54) **Pocket tool**

(57) This invention has a purpose of guiding an exact movement of the scissors in using an elastic power of only the front hem (8) in the state that the elastic panel (3) is fixed on the fixing scissors body (A), and only the front hem part is installed in the coupling hole (6) of the moving scissors body (B), and for this, the lighter or the flashlight may be mounted on the pocket tool by installing the rear hem part (10) of the elasticity panel (3) that the front hem (8) has a cutting part (1) cut properly on the same line with the fixing scissors body (A) in fixing on the fixing scissors body, and by installing the front hem (10) of the cutting part (1) in the coupling groove (13) made in the lower hem of the coupling part of the moving scissors body (B), and which is possible to move exactly and repetitively because only the front hem part of the elasticity panel (3) exhibits the elastic power as, if pressing the moving scissors body (B), the rear hem part of the elasticity panel (3) is fixed on the fixing scissors body (A), and by coupling the flashlight (14) or lighter (60) etc. in the hollow part of the other surface made by the coupling projection (7) of the body.



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Description

The present invention relates to a pocket tool the small knives or the opener for emptying cans and the scissors are deposited, in particular, the improved part for the precise structure of repetitive movement of the scissors and the pocket tool made for mounting easily the flashlight and the lighter on this pocket tool.

The scissors of usually known pocket tool, as shown in Fig. 7, has a structure moved with the plate-shaped spring 100 by fixing only one side of the plate-shaped spring 100 on the fixing scissors body, by cutting properly that front hem to place at the same axle with the fixed scissors body 101, and by coupling the moving body 102 with a special coupling pin 103 so that it can be folded up with this fixing body 101.

So, if the plate-shaped spring 100 isn't installed in an exact place because the plate-shaped spring 100 isn't cut exactly onto the same axle, or there occurs a twist in using, as the moving scissors body 102 isn't exactly installed on the plate-shaped spring 100, it is impossible to move repetitively and exactly, and when this plate-shaped spring is installed in the body, because this plate-shaped spring is installed in the state pressed by the moving scissors body 102, if one keeps it for a long time, the plate-shaped spring 100 may lose its elasticity, because the front hem of this plate-shaped spring moves flappantly, it may spoil the appearance, and furthermore, because the moving body 102 has not the part to hold in order to move in the fixed range, the moving body 102 can not adhere closely and exactly to the plate-shaped spring 100 owing to the flap of the moving body 102, then, it is impossible to move exactly and repetitively.

Then, recently, to solve these problems, the fold-up panels 201 has a structure that the projection 206 of the moving body 205 is moved repetitively by being adhered closely to the slope 207 of the fold-up panel 201 as shown in Fig. 10 at the state coupled with the body 204 to meet together with the fixed body 203 at the same time by the coupling pin 202 as shown in Fig. 8.

But, as this fold-up panel 201 is for the repetitive movement in being moved as shown in Fig. 9A, 9B by using the elasticity power of the plate spring 208 to have a elasticity when installing for the purpose of pulling out the scissors to use from the body 204, or carrying in, when installing these scissors in a body 204, as, finally, the fold-up panel 201 is installed in the body 204 in the folded up state pressed as shown in Fig. 9B, there may occur a damage in elasticity of plate spring 208, and as it moves in the state that the slope surfaces 200 of the fold-up panel 201 and the projection of the moving scissors body 205 are adhered closely together as shown in Fig. 10, if the processing of the slope 207 isn't precise, they cross each other, and become useless, or as the fold-up panel 201 is in the state supported biasly by being fixed on one side of this fixed scissors body 203, and being adhered closely to the projection 206 of the moving scissors body 205, and the angle of the handles

of the moving scissors body 205 widens largely, then there may be the processing problem to cut inward the handles part of the moving scissors body 205 to reduce the angle of handles, and if the moving body 205 widens outward, there may be the problem that the fold-up panel 201 and the projection 206 of the moving scissors body 205 which are adhered closely together are separated because there isn't any part to hold the moving scissors body 205.

Then, according to this invention, it is possible to move exactly and repetitively by fixing the rear hem of the elasticity panel having the part that the front part is cut in proper angle, installing on the same axle with the fixing scissors body, and if pressing the moving scissors body in installing the front hem of the cut part on the coupling groove made in the lower hem of the coupling part of the moving scissors body, as the cut part of the rear hem of the elasticity panel is fixed in the fixing scissors body, the axle of the elasticity panel exhibits the elasticity power while the cut part of the front hem part of the elasticity panel is pressed, and for the combination of this tool(scissors etc.), one can mount a lighter or flashlight on the pocket tool by coupling the flashlight or lighter etc. which the coupling projection is formed in the hollow part of the rear surface.

BRIEF DESCRIPTION OF THE DRAWINGS

The above and other objects, features and other advantages of the present invention will be more clearly understood from the following detailed description taken in conjunction with the accompanying drawings, in which:

Fig. 1 is an exploded perspective view that the products of this invention is coupled with the body;
Fig. 2 is an enlarged perspective view of the scissors part;
Fig. 3 is a cross section representing the fixing state of the elasticity panel and the fixing scissors body;
Fig. 4 is a perspective view of the scissors;
Fig. 5 is a perspective view of elasticity panel;
Fig. 6 is a cross section of A-A line of Fig. 5;
Fig. 7 is a perspective view representing the composition of the usual scissors;
Fig. 8 is an exploded perspective view that the improved usual scissors are combined to the body;
Fig. 9A is a perspective view representing the previous state that the scissors are not compressed;
Fig. 9B is a perspective view that the scissors are compressed;
Fig. 10 is a cross section representing the close adhesion of slope of the fold-up panel and the projection;
Fig. 11 is a perspective view of the state that the flashlight is mounted on the hollow groove of the other plate of the body;
Fig. 12 is an exploded perspective view representing the structure of the flashlight;

Fig. 13 is a perspective view representing the other structure of the flashlight used the cut terminal;

Fig. 14 is a perspective view representing the combination state of the rear surface of the flashlight body and the button part;

Fig. 15 is a perspective view of the state that the flashlight is mounted on the pocket tool body;

Fig. 16 is a perspective view representing the state of mounting the lighter;

Fig. 17 is a perspective view of the state that the lighter is mounted on; and

Fig. 18 is a process order drawing.

For this, in the invention, as shown in Fig. 1 to Fig. 6, the front hem 8 has a cutting part 1 cut in proper angle so that it may not be separated by being installed in the coupling groove of the moving scissors body(B). In the rear hem 10, two fixing projections 5 are pressed and projected on one side are formed so that it may be fixed by being inserted and combined into the fixing hole 4 of the fixing scissors body(A), and in that rear part, the elasticity panel 3 which the coupling hole 6 is formed is installed on the same axle with the fixing scissors body(A) so that it may meet by being coupled in the coupling projection 7 made in one side plate(C) of the body, and the coupling hole 6 of the above elasticity panel 3 is combined to be able to couple in the coupling projection 7 of the body(C) at the same time by forming on the same axle with the coupling hole 6a of the fixing scissors body(A).

So, if pressing the moving scissors body(B) at the state that two fixing projection 5 of the rear hem 10 of the elasticity panel 3 are inserted and fixed into the two fixing holes 4 of the fixing scissors body(A), as the front hem of the cutting part 1 is installed by being cut in the coupling groove of the moving body(B), if the front hem 8 of the elasticity panel 3 is pressed, the elasticity panel 3 moves repetitively by the elastic power of the axle 11 of elasticity panel.

At this time, the fixing projection 5 of the elasticity panel 3 doesn't separate because one part(the part that the fixing projection 5 is inserted into the fixing hole 4) of the rear hem of the elasticity panel 3 is hided with the other side panel(D) so that the fixing projection 5 may not be separated freely from the state that it is inserted into the fixing hole 4.

Furthermore, as for the cutting part 1 of the front hem 8 and the part that the fixing projection 5 of the rear hem 10 are formed, the ones formed thickly more than the axle 11 of the elasticity panel 3 have the excellent elastic power, and as for the axle 11, it had better make it thin in the uniform thickness.

The method fixing these tools(scissors body etc.) on the coupling projection 7 of the body(C) is composed of combination without use of special coupling pin by inserting the various tools(scissors etc.) into the coupling projection 7, in the rear surface, by projecting the coupling projection 7 formed in hollow groove 13 with the successive pressing(refer to the process drawing of

Fig. 18) by beating with 4 edges of one side panel(C) of the body, and after combining like this, by pressing or cutting and widening the part projected upward of the other side panel(D) after inserting the other side panel(D) of the body that the hole is drilled to go in gear with the coupling projection 7 projected on one side panel(C) of the body.

In the combination of the cover(E) covering the bodies(C,D), for combining by using the cutting projection(F), one can supply the products of various designs by forming the hollow part 90 on that outer surface, and attaching the leather 91 of the various figures on it, and in this hollow part 90, one can supply also the products of various design by manufacturing it with special Logo forms. The formation of this hollow part 90 is done with press molding.

Also, as shown in Fig. 11 to Fig. 15, one can supply the pocket tool that the flashlight is mounted on by combining the flashlight body 14 equipped with the coupling projection 7a so that it may combine on the hollow groove 13 of one side panel(C) of the body.

It is the composition that, for this, the fixing groove 21 is formed at a right angle to the center where the curved hollow groove 22 is formed by the guide projection 19, 19a so that the bulb 40 that the structured terminals 30, 30a are coupled with may be installed, and the coupling hollow part 26 able to be combined to the ring shaped part in the flashlight body 14 that the receiving part 25 is formed by the ring-shaped part 18 is made so that the battery 50 may be installed in that rear hem, and in that center, the elasticity button 16 is formed in order to have the elastic power by the incised part 17 that one part is incised, in the inside surface of the center of the elasticity button 16, the cover 15 which the elastic body 24 is attached is pressed and combined in order to press without pushing one side terminal 30a of the bulb 40.

The combination of this time is done with the coupling projection 20 of the body 14 and the coupling groove 23 of the cover 15.

At this time, when combined by pressing, the curved hollow groove 22a, the fixing groove 21a which corresponds to the curved hollow groove 22 and the fixing groove 21 of the flashlight body 14 are formed so that the bulb 40 that the terminals 30, 30a are formed on the cover 15 may be fixed exactly and installed.

At this time, the terminals 30, 30a of the bulb 40 are installed up and down of the battery 50 received in the receiving part 25, and one terminal 30a of the upper part becomes always separated.

For this, one can widen two terminals 30, 30a, and separate the terminal 30a by cutting.

Then, because the battery 50 is received in the receiving part 25, and one terminal 30a of the bulb 40 remains separated up and down of the battery 50, the light isn't on the bulb 40, and if pressing the elasticity button 16 of the cover 15, the terminal 30a is fixed and pressed exactly by the elastic body 24 attached on the lower hem of the elasticity button 16, and the terminal

30a adheres closely to the battery 50, the circuit is closed, then the light is on the bulb 40.

At this time, when using two bulbs 40, as shown in Fig. 13, one can use two batteries after connecting in series by using the cutting terminal 12.

Then, one can supply the multi-functional pocket tool by mounting the flashlight on one side of the pocket tool.

Also, by mounting the lighter 60 on it in using this combination principal, one can supply the pocket tool for the other use, at that time, the diaphragm 27 is formed toward the lighting nozzle of the lighter to form the coupling projection 7b on one side of the lighter 60, and by this diaphragm 27, the wheel was formed biasly at 45°C for the smooth movement of the lighter wheel 28, and for the opening and closing of the gas, the principal of the vacant lot lifting up and lowering the nozzle 80 when closing and opening the cover 70 is used.

Furthermore, to realize the various bodies of lighters, it is possible to remove and mount the special cap 29 on the body of lighter.

Claims

1. A pocket tool comprising:

a scissors structure to be combined at the same time to the coupling projection(7) of the body(C) by being formed on the same axle with the coupling hole(6a) of the fixing scissors body(A), and in the front hem, having a cutting part(1) cut properly not to be separated by being installed in coupling groove(2) of the moving scissors body(B), in the rear hem, having two fixing projection(5) pressed and projected on one side to be fixed by being inserted and combined into the fixing hole(4) of the fixing scissors body(A), and in the rear part, installing the elasticity panel(3) that the coupling hole(6) is formed on the same line with the fixing scissors body(A) to couple by being combined in the coupling projection(7) projected on one side panel(C) of the body.

2. The pocket tool according to claim 1, equipped with the lighter or flashlight that has the coupling projection(7a)(7b) in the hollow groove made on the other surface by forming the coupling projection of the body.

3. The pocket tool according to claim 1 or 2, equipped with a flashlight having a structure that the fixing groove (21) is formed at a right angle to the center where the curved hollow groove(22) is formed by the guide projection(19) which the terminal is connected may be installed, and in that rear hem, the coupling hollow part (26) which is able to be combined to ring-shaped part is formed in the flashlight body(14) which the receiving part(25) is made by

the ring-shaped part(18) so that the battery may be installed, in the center, the elasticity button(16) is formed to have a elastic power by the incising part(17) which one side is incised, and in the inner center of the elasticity button(16), the cover(15) which the elastic body (24) is attached to press the terminal of the bulb is pressed and combined.

4. The pocket tool according to any preceding claim, equipped with the flashlight using the special cutting terminal (12) when using two bulbs in series by using two receiving parts.

FIG 1

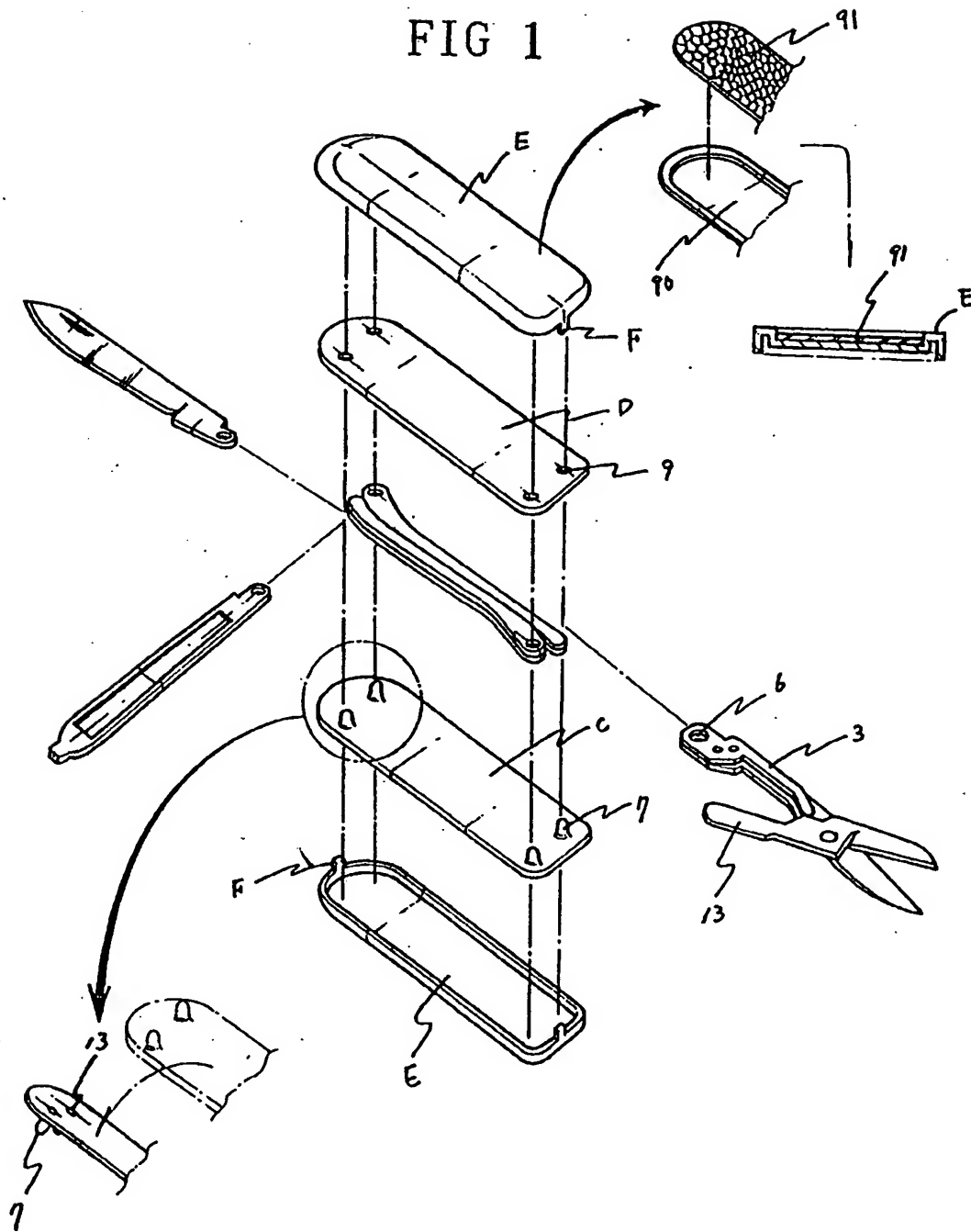


FIG 2

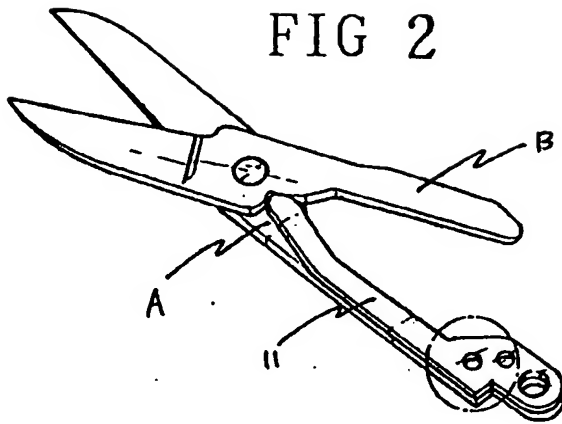


FIG 3

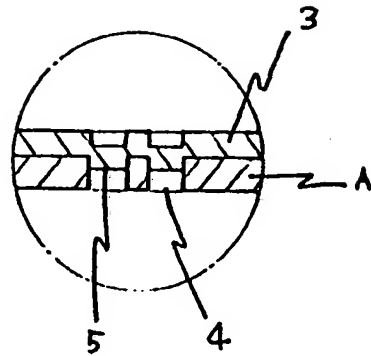


FIG 4

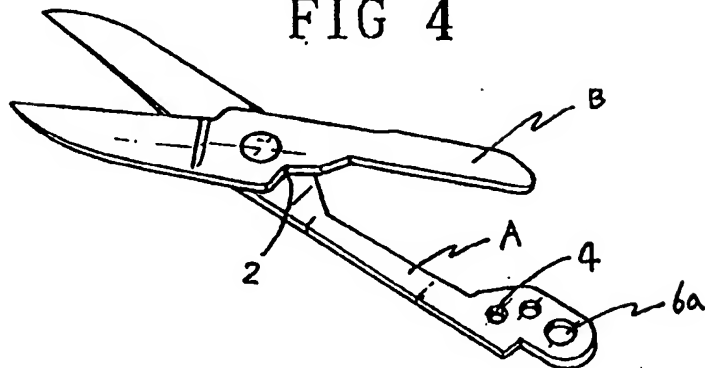


FIG 5

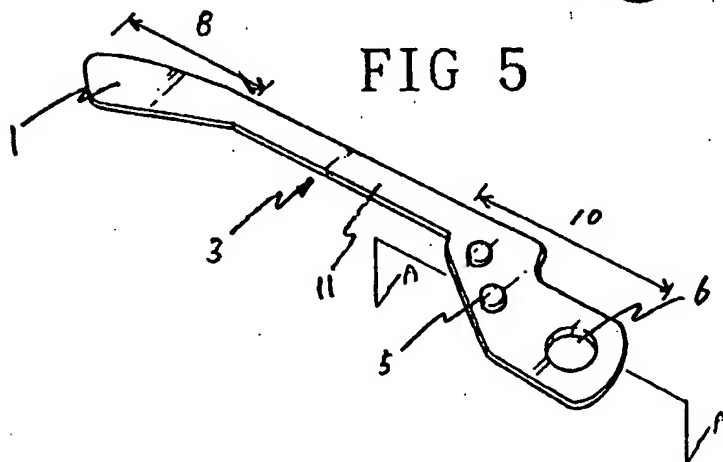


FIG 6



FIG 7

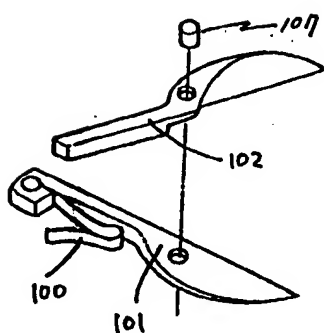


FIG 8

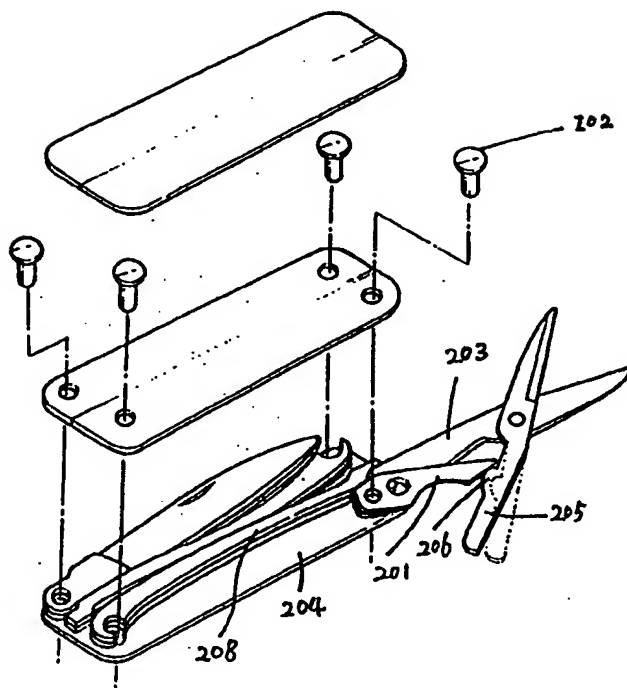


FIG 9A

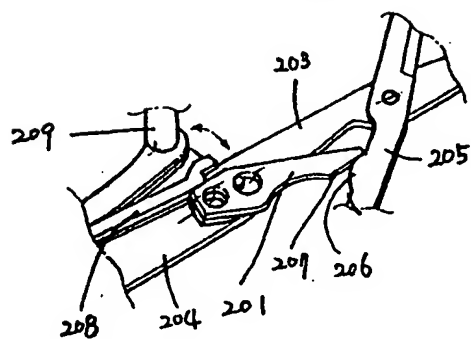


FIG 9B

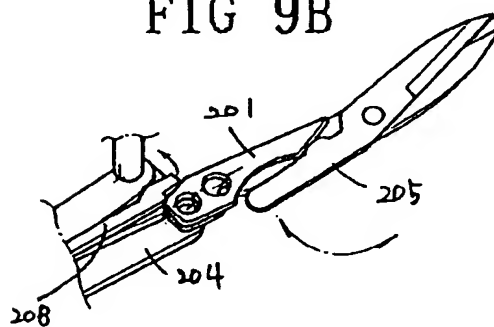


FIG 10

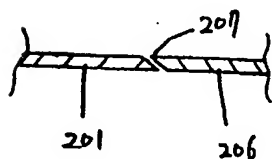


FIG 11

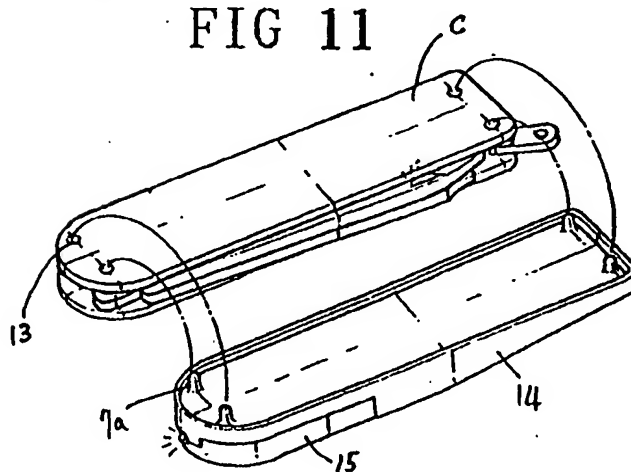


FIG 12

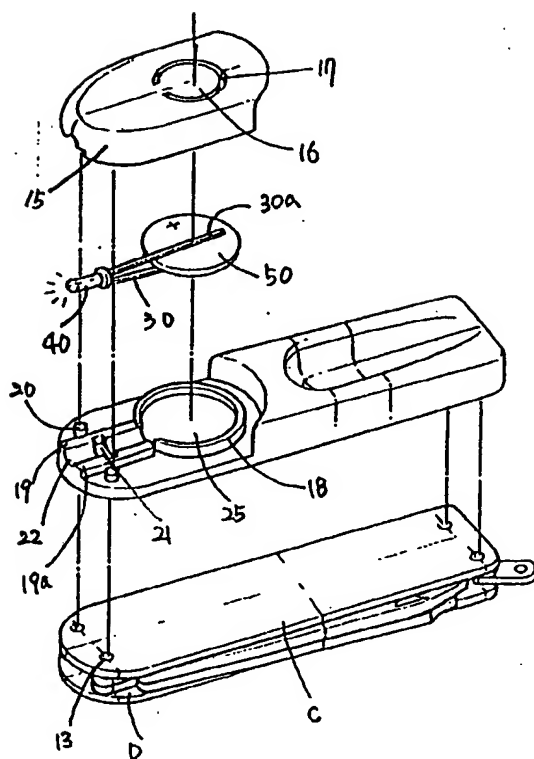


FIG 13

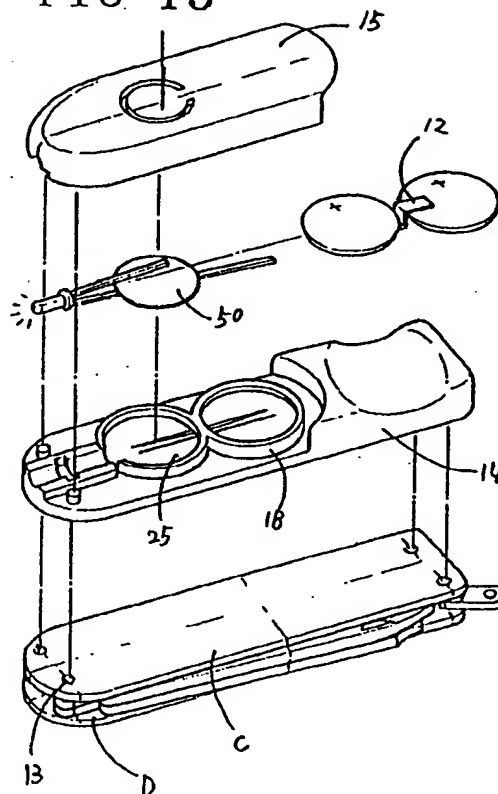


FIG 14

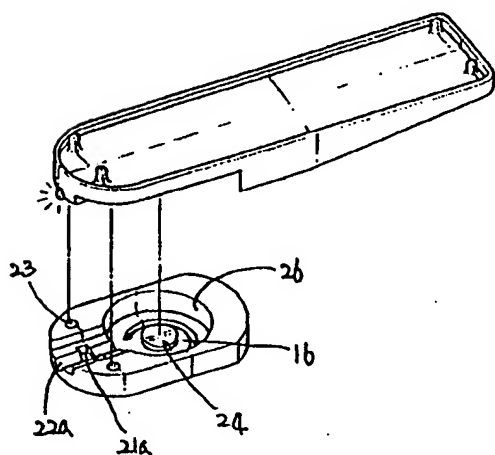


FIG 15

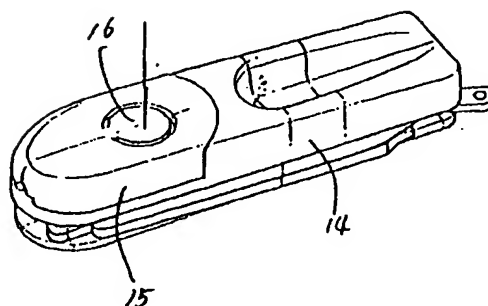


FIG 16

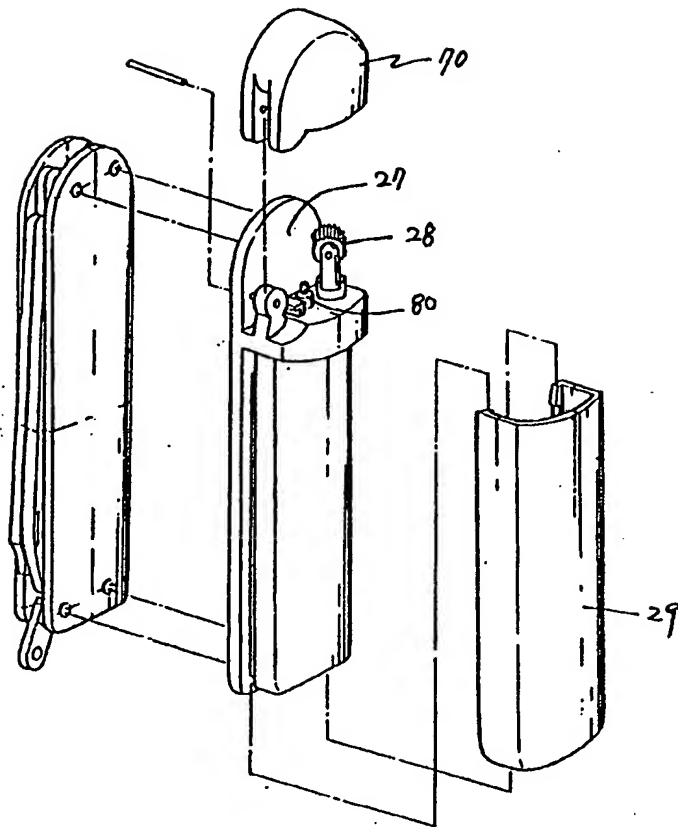


FIG 17

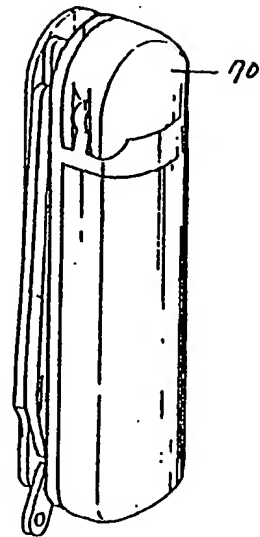
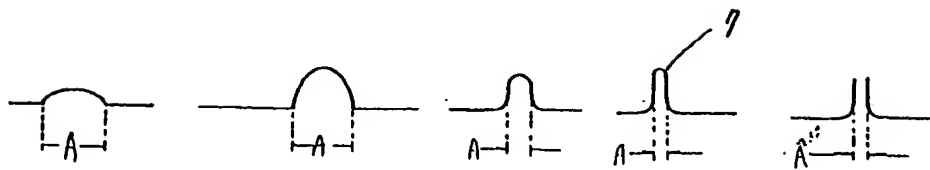


FIG 18





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Application Number

which under Rule 45 of the European Patent Convention EP 96 11 7631
shall be considered, for the purposes of subsequent
proceedings, as the European search report

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	DE-A-22 50 788 (WENGER) * the whole document * ---	1	B26B13/00 B26B11/00 B26B13/16
A	EP-A-0 676 261 (PARK) * the whole document * ---	1-4	
A	DE-A-36 30 640 (MIHAILESCU) * column 19, line 40 - column 20, line 61; figures 10-15 * ---	2-4	
A	CH-A-536 695 (WENGER) * the whole document * -----	1	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			B26B
INCOMPLETE SEARCH			
<p>The Search Division considers that the present European patent application does not comply with the provisions of the European Patent Convention to such an extent that it is not possible to carry out a meaningful search into the state of the art on the basis of some of the claims.</p> <p>Claims searched completely :</p> <p>Claims searched incompletely :</p> <p>Claims not searched :</p> <p>Reason for the limitation of the search:</p> <p>see sheet C</p>			
Place of search THE HAGUE		Date of completion of the search 12 February 1997	Examiner Herygers, J
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

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EP 96 11 7631 - C -

INCOMPLETE SEARCH

The Search Division considers that the present European patent application does not comply with the provisions of the European Patent Convention to such an extent that it is not possible to carry out a meaningful search into state of the art on the basis of some of the claims.

Claims searched completely:

Claims searched incompletely: 1-4

Claims not searched:

Reason for the limitation of the search: The drafting of the description and the claims in sentences without any logical grammatical structure makes it impossible to determine the subject matter for which a protection is claimed.